

WHAT IS CLAIMED IS:

1. An image processing apparatus comprising:
  - a first acquisition section, arranged to acquire color data of an object;
- 5 a second acquisition section, arranged to acquire a plurality of spectral distribution data on the basis of the configuration of spectral distribution data defined in accordance with the acquired color data; and
  - a generator, arranged to generate image data
- 10 constructed by the acquired color data and the plurality of spectral distribution data.
2. An image processing apparatus comprising:
  - an input section, arranged to input image data constructed by color data and a plurality of spectral distribution data; and
    - an estimator, arranged to estimate spectral distribution data of a total wavelength region on the basis of the configuration of the spectral distribution data defined in accordance with the color data.
- 15
- 20 3. An image processing apparatus comprising:
  - a first acquisition section, arranged to acquire color data of an object;
  - a second acquisition section, arranged to acquire a plurality of spectral distribution data on the basis
- 25 of the configuration of spectral distribution data defined in accordance with the acquired color data;
- an estimator, arranged to estimate spectral

distribution data of a total wavelength region on the basis of the configuration of the spectral distribution data; and

5 a generator, arranged to generate the spectral distribution data of the total wavelength region from the acquired color data and the plurality of spectral distribution data, on the basis of the estimated spectral distribution data of the total wavelength region.

10 4. The apparatus according to claim 3, wherein the configuration of the spectral distribution data is defined as a combination of the spectral distribution data.

15 5. The apparatus according to claim 3, wherein the configuration of the spectral distribution data is defined by a spectral distribution defined in accordance with the color data.

6. The apparatus according to claim 3, wherein the combination of the color data and the configuration of 20 the spectral distribution data is predetermined.

7. The apparatus according to claim 3, wherein the configuration of the spectral distribution data is arbitrarily changeable.

8. An image processing method comprising the steps 25 of:

acquiring color data of an object;  
acquiring a plurality of spectral distribution

data on the basis of the configuration of spectral distribution data defined in accordance with the acquired color data; and

5 generating image data constructed by the acquired color data and the plurality of spectral distribution data.

9. An image processing method comprising the steps of:

10 inputting image data constructed by color data and a plurality of spectral distribution data; and

estimating spectral distribution data of a total wavelength region on the basis of the configuration of the spectral distribution data defined in accordance with the color data.

15 10. An image processing method comprising the steps of:

acquiring color data of an object;

20 acquiring a plurality of spectral distribution data on the basis of the configuration of spectral distribution data defined in accordance with the acquired color data;

estimating spectral distribution data of a total wavelength region on the basis of the configuration of the spectral distribution data; and

25 generating the spectral distribution data of the total wavelength region from the acquired color data and the plurality of spectral distribution data, on the

10006724

basis of the estimated spectral distribution data of the total wavelength region.

11. A computer program product storing a computer readable medium comprising a computer program code, for 5 an image processing method, comprising process procedure code for:

    acquiring color data of an object;  
    acquiring a plurality of spectral distribution data on the basis of the configuration of spectral 10 distribution data defined in accordance with the acquired color data; and  
    generating image data constructed by the acquired color data and the plurality of spectral distribution data.

15 12. A computer program product storing a computer readable medium comprising a computer program code, for an image processing method, comprising process procedure code for:

    inputting image data constructed by color data 20 and a plurality of spectral distribution data; and  
    estimating spectral distribution data of a total wavelength region on the basis of the configuration of the spectral distribution data defined in accordance with the color data.

25 13. A computer program product storing a computer readable medium comprising a computer program code, for an image processing method, comprising process

procedure code for:

    acquiring color data of an object;

    acquiring a plurality of spectral distribution data on the basis of the configuration of spectral

5    distribution data defined in accordance with the acquired color data;

    estimating spectral distribution data of a total wavelength region on the basis of the configuration of the spectral distribution data; and

10    generating the spectral distribution data of the total wavelength region from the acquired color data and the plurality of spectral distribution data, on the basis of the estimated spectral distribution data of the total wavelength region.